

REMARKS

Applicant acknowledges and appreciates the Examiner's allowance of Claim 2.

In the present Response, the specification is amended and submitted. By this amendment, Applicant has amended Claims 1, 6, 10, 13, 14, and 18 to clarify its claimed invention. Claims 10, 13 and 18 have been amended specifically to correct typographical errors. Claim 19 is cancelled, however, Applicant reserves the right to represent this claim in a future application. New Claims 20, 21, 22, and 23 are added. Support for these claims are found in Figures 19A, 19B and 24. No new matter has been introduced.

Specification

Applicant has amended the specification to correct minor typographical errors. No new matter has been introduced.

Claim Objections

Claim 13 was objected to because Lines 2 and 4 disclose a "plain" instead of a "plane". Claim 10 was objected to due to lack of antecedent basis because Line 2 referred to "said second pivot arm" instead of "said second tandem arm". Claim 18 was objected to because Line 7 disclosed "said first tandem arm" instead of "said arm". Claim 19 was objected to, but has been cancelled by this amendment. Applicant both thanks and appreciates the feedback and direction from the Examiner and has included the recommended amendments into the above identified Claims. Applicant respectfully requests the identified claim objections be withdrawn.

Section 112 Claim Rejections

Examiner has rejected Claim 15 under 35 U.S.C. 112, first paragraph. Specifically, the Examiner has indicated it is unclear from the drawing and the specification what perpendicular

extending axle applicant is referring to that allows the bottom tandem arm to pivot in a second plane that is perpendicular to the first plane. The Examiner has also indicated that by looking at the pictures or the specification, the Examiner is unable to determine how such an axle is attached to the bottom tandem arm and one of the idler wheels to allow for pivoting in a second, perpendicular plane.

For the Examiner's understanding, the idler hub spindle axles 113A&B attach to the bottom tandem arms 118, 119 with the axles perpendicular to the tandem arms. These axles pivot in a second plane by rotation of the attached inner roll tube 212. The second plane is perpendicular to the first plane which the top tandem arm and bottom tandem arm pivot. Applicant directs Examiner to amended paragraphs 71 and 72, lines 1 through 23 and Figures 19A, 19B and 24 which discloses the connection between the top tandem arms and lower tandem arms, and also a preferred exemplary design for the lower tandem arms 118, 119. The lower tandem arms 118, 119 attach to the top tandem arms 120, 121 by pins 129, 129B extending through sleeves 115, 115B. See paragraph 71, lines 9-14 and Figures 19A and 19B. In the preferred embodiment of the lower tandem arms 118, 119, each tandem arm includes an upper portion 208 that pivotally mounts to the top tandem arms 120, 121. See paragraph 72, lines 15-16 and Figure 24. Attached below the upper portion 208 is an outer roll tube 210. An inner roll tube 212 slides into the outer roll tube 210, and is free to rotate within the outer tube 210. See paragraph 72, lines 17-18 and Figure 24. Attached to the inner roll tube 212 are a first axle attachment member 214 and a second axle attachment member 216. See paragraph 72, lines 18-22 and Figure 24. Idler hub spindle axles 113A&B are attached to the first and second axle attachment members, respectively. See paragraph 72, lines 22-23 and Figure 24. This attachment enables the idler hub spindle axles 113A&B to pivot with respect to each other about

the axis of the inner roll tube 212. The pivot axis of inner roll tube 212 is perpendicular to the axis the top tandem arm and bottom tandem arm pivot. See Figures 19A, 19B and 24. As described above, the idler hub spindle axles 113A&B attach perpendicularly to the bottom tandem arms 118, 119. The preferred exemplary roll tube structure of the bottom tandem arms 118, 119 allows the axles to pivot in a second plane, perpendicular to the pivot plane of the top tandem arms 120, 121 and bottom tandem arms 118, 119. The specification and figures both identify and describe the perpendicular extending axle, how the axle attaches to the bottom tandem arm, and how the perpendicular extending axle pivots in a second, perpendicular plane as claimed in Claim 15.

Additionally, the Examiner has rejected Claims 16-18 under 35 U.S.C. 112, second paragraph as being indefinite. Specifically, the Examiner has indicated the second pivot axis for pivoting in a second plane which is perpendicular to the first plane is not clear because it is not clear where the second pivot axis is located.

Applicant respectfully directs Examiner to Figures 19A, 19B and 22. These Figures illustrate the top tandem arms 120, 121 are connected to the lower / bottom tandem arms 118, 119 by pins 129 / 129A, 129B, respectfully. The top tandem arms 120, 121 pivot on pins 111, 132, and the lower / bottom tandem arms 118, 119 pivot on pins 129 / 129A, 129B. See paragraph 71, lines 9-12. These pins are parallel to each other, allowing for pivoting in the same first plane. See Figures 19A, 19B and 22. As discussed above, in the preferred embodiment of the lower tandem arms 118, 119, each tandem arm includes an upper portion 208 that pivotally mounts to the top tandem arms 120, 121. See paragraph 72, lines 15-16 and Figure 24. Attached below the upper portion 208 is an outer roll tube 210. An inner roll tube 212 slides into the outer roll tube 210, and is free to rotate within the outer tube 210. See paragraph 72, lines 17-18 and

Figure 24. The idler hub spindle axles 113A&B, attached to the inner roll tube 212, pivot with respect to each other about the axis of the inner roll tube 212. The pivot axis of inner roll tube 212 is perpendicular to the first pivot plane of the top tandem arms 120, 121 and lower / bottom tandem arms 118, 119. The pivot axis of inner roll tube 212 is the second pivot plane perpendicular to the first pivot plane. The specification and figures both identify and describe the second pivot plane, and the corresponding second pivot axis structure and location as claimed in Claims 16-18.

For the above reasons, Applicant respectfully requests the 35 U.S.C. 112 rejections be withdrawn.

Section 102 Claim Rejections

Examiner rejects Claims 1, 12-14, and 19 under 35 U.S.C. 102(b) as being anticipated by Purcell (U.S. Patent No. 3,841,424). Reconsideration and allowance of all pending claims is respectfully requested.

In regard to Claim 1, Examiner asserts Purcell discloses the claimed track assembly. Examiner applies the numbering of Figure 1 in Purcell to Applicant's language of Claim 1. Reciting Claim 1, the track assembly comprising a frame (17) including a tensioning device (26) adjustably spacing a first wheel (22) a distance from a second wheel (22); a top tandem arm (23) connected to the frame (17) at a pivot member (24) such that the top tandem arm (23) will pivot relative to the frame (17) in a substantially vertical plane, the first wheel (22) being directly connected to a first end of the top tandem arm (23) at one end of the frame (17); a bottom tandem arm (27) being pivotally connected to a second end of the top tandem arm (23), the pivot member (24) being positioned between the first and second ends of the top tandem arm (23); a front and a rear tandem arm idler wheel (28) connected to the front and back of the bottom

tandem arm (27); and a belt (29) in engagement with the tandem arm idler wheels (28) and the first and second wheels (22).

Similarly, in regard to Claim 14, Examiner asserts Purcell discloses the claimed track assembly. Examiner applies the numbering of Figure 1 in Purcell to Applicant's language of Claim 14. Reciting Claim 14, the track assembly comprising a wheel frame (17); a first tandem arm (23) directly connected to an axle (24) positioned in said wheel frame forming a pivot member for rocking generally in a vertical plane about a first pivot axis; a first wheel (22) positioned at one end of the wheel frame (17) and operably connected to the wheel frame by direct attachment to a first end of said first tandem arm (23) and a second wheel operably connected to said wheel frame (17); a continuous ground-engaging belt (29) trained around said first and second wheels (22) and defining an upper run and a lower run, said lower run in contact with the ground; a first idler wheel (28) structure supported by a second end of the first tandem arm (23), the pivot member (24) being positioned between the first and second ends of the first tandem arm (23), the idler wheel structure being in contact with the lower run between the first and second wheels.

Purcell discloses an important structure required for the proper operation of the track chain suspension disclosed therein which differs from Applicant's claimed invention. Specifically, wedge-shaped compression pads 37 cushion the track rollers. These compression pads 37 are disposed on the upper surfaces of the bogey-supporting ends of the cranks 23, (which in comparison are the top or first tandem arm in Applicant's claimed invention according to the Examiner's identifiers). The compression pads project upwardly between the cylinders 26 (tensioning device in Applicant's claimed invention according to the Examiner's identifiers) where they are engagable by plates 38 which are an integral part of cylinder housings 39

enclosing cylinders 26. See Purcell, Col. 3, Lines 40-47. The compression pads 37 compress upon further movement of the cranks 23 toward the plates 38, resulting in the compression pads 37 exhibiting a progressive spring rate as they cushion upward deflection of the track rollers 28 (rear tandem arm idler wheel or first idler wheel in Applicant's claimed invention according to the Examiner's identifiers). See Purcell, Col. 3, Lines 56-61. The compression pads effectively restrict the pivot distance of each crank 23 (the top or first tandem arm in Applicant's claimed invention according to the Examiner).

Amended Claims 1 and 14 are patentable over Purcell by claiming "a top tandem arm pivotally connected to said frame at a pivot member such that said top tandem arm will pivot freely relative to said frame in a substantially vertical plane, said first wheel being directly connected to a first end of said top tandem arm at one end of said frame" [Claim 1], and "a first tandem arm directly connected to an axle positioned in said wheel frame forming a pivot member for freely rocking generally in a vertical plane about a first pivot axis" and "a first idler wheel structure supported by a second end of said first tandem arm, the pivot member being positioned between the first end and the second end of the tandem arm such that said first idler wheel structure and said first wheel freely rock about said first pivot axis in a reciprocating manner to maintain a desired distribution of weight between said first wheel and said first idler wheel structure, said first idler wheel structure being in contact with said lower run between the first and second wheels" [Claim 14]. This feature permits freedom of movement of the top or first tandem arm about the respective pivot axis. Applicant's claimed invention has no device similar to Purcell's compression pads that restrict the movement of the top or first tandem arm.

In addition to the foregoing, Purcell does not teach or suggest Applicant's claimed device. It is important to recognize that one of skill in the art could not simply remove the

compression pads 37 from Purcell to arrive at Applicant's invention. In Purcell, the cranks 23 (the top or first tandem arm in Applicant's claimed invention according to the Examiner) are attached to the track frame 17 (the frame or wheel frame in Applicant's claimed invention according to the Examiner) in a way so the track frame 17 overlaps the cranks 23 and track rollers 28. The compression pads 37 stop the movement of the cranks 23 and track rollers 28 from impacting the track frame 17 during operation. If the compression pads 37 are removed from Purcell, the cranks 23 and track rollers 28 would strike the track frame 17, inhibiting operation. See Purcell, Figures 1 and 2. Applicant's claimed invention, in comparison, attaches the top or first tandem arms 120, 121 (cranks 23 in Purcell according to the Examiner) in a manner that does not include structure, including the frame or an equivalent to compression pads, which restricts the upward pivotal movement of the top or first tandem arms. See Figures 19A and 19B.

Claims 12 and 13 depend from Claim 1 and are patentable for the same reasons as Claim 1, and by reason of the additional features set forth respectively therein. As Claim 19 has been cancelled herein, the Examiner's rejection is moot.

Section 103 Claim Rejections

Examiner rejects Claims 6-11 under 35 U.S.C. 103(a) as obvious over Purcell (U.S. Patent No. 3,841,424) in view of Dow (U.S. Patent No. 5,373,909). Reconsideration and allowance is respectfully requested.

In regard to Claim 6, Examiner asserts Purcell discloses the claimed track assembly, but fails to disclose the track assembly could be used to tow an implement. Dow further discloses the track assembly could have a hitch and be towed behind a working vehicle.

Applying the obviousness test set forth in *Graham v. Deere*, a patent is rejected as obvious under § 103 after determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims at issue; and identifying the level of ordinary skill in the pertinent art. See *Graham v. Deere*, 383 U.S. 1, 17-18 (1966). This test was upheld by the Supreme Court in *KSR v. Teleflex*. 127 S. Ct. 1727, 1734 (2007).

Applicant's amended Claim 6 is not obvious, nor an obvious variation in view of Purcell, due to key differences between the cited prior art and the claims at issue. Amended Claim 6 is patentable by claiming "a first tandem arm directly connected to an axle positioned in said wheel frame forming a pivot member for freely rocking generally in a vertical plane about a first pivot axis". This feature permits freedom of movement of the top or first tandem arm about a pivot axis. As detailed above, Applicant's claimed invention has no structure similar to Purcell's compression pads that restrict the pivotal movement of the top or first tandem arm. As detailed above, the compression pads 37 of Purcell stop the movement of the cranks 23 and track rollers 28 from impacting the track frame 17 during operation. Thus, if the compression pads 37 are removed from Purcell, the cranks 23 and track rollers 28 would strike the track frame 17, inhibiting operation. Accordingly, for the reasons detailed above, Purcell could not be modified to arrive at the invention defined by amended Claim 6. Dow, which is relied on by the Examiner to disclose a hitch, likewise, could not be used to show the features of Applicant's claimed device lacking from Purcell.

Claims 7-11 depend from Claim 6 and are patentable for the same reasons as Claim 6, and by reason of the additional features set forth respectively therein.

Additionally, Examiner rejects Claims 15-18 under 35 U.S.C. 103(a) as obvious. Claims 15, 17, and 18 are rejected over Purcell (U.S. Patent No. 3,841,424) in view of Satzler (U.S.

Patent No. 4,437,267). Claim 16 is rejected over Purcell (U.S. Patent No. 3,841,424) in view of Dow (U.S. Patent No. 5,373,909) and further in view of Satzler (U.S. Patent No. 4,437,267). Reconsideration and allowance is respectfully requested.

In regard to Claims 15-18, Examiner asserts Purcell discloses the claimed track assembly, but fails to disclose that the idler wheel structure can pivot in a second plane which is perpendicular to the first plane. The Examiner argues that Satzler further discloses a second, perpendicular pivot pin and teaches that this perpendicular pivot allows the track assembly to adjust when it encounters a raised object on the ground. See Satzler, Col. 4, Line 66 through Col. 5, Line 4. Dow is relied on by the Examiner to disclose a hitch and towing behind a working vehicle.

Claims 15-17 depend from Claims 1, 6, and 14 respectively, and are patentable for the same reasons as Claims 1, 6, and 14, and by reason of the additional features set forth respectively therein. In addition, Applicant's Claims 15-17 are not obvious, nor an obvious variation in view of Purcell, alone or in combination with other references, due to key structural differences between the Purcell reference and the claims at issue as described in detail above. Specifically, Applicant's first or top tandem arms as disclosed in the respective independent claims permit freedom of movement and are not restricted by structure, unlike the tandem arms disclosed in Purcell.

Moreover, Applicant's Claims 15-18 are also not obvious, nor an obvious variation in view of Satzler, alone or in combination with other references, due to key differences between the cited prior art and the claims at issue. Satzler discloses a single connecting means 32 including a swivel bearing 36 connected to the axle 20 and slidably disposed on the pin 34. Satzler, Col. 2, Lines 48-50. The swivel bearing 36 allows the axle 20 to pivot about the pin 34

in the event one of the wheel assemblies 22, 22' runs over a raised object on the ground. The force transmitting member 48 pivots about the pivot pin 46 thus allowing the jack assemblies 50 and arms 70 to pivot simultaneously with any pivoting movement of the axle 20 about the pin 34. Satzler, Col. 4, Line 66 through Col. 5, Line 4. Thus, this single pin located at the center of the axle allows for limited pivoting of the entire axle structure. The center pin allows for limited rotation, however only in one direction or the other. The first and second inextensible belts 26, 28 can not pivot independently. This single plane, dependent pivoting results in exclusion from certain terrain. See Satzler, Figures 2 and 3.

In comparison, Claims 15-18 are patentable by claiming “wherein said top tandem arm and said bottom tandem arm pivot in a first plane, and wherein said assembly further comprises an axle extending perpendicular to said bottom tandem arm and operably connected between said bottom tandem arm and at least one of said idler wheels, said axle being pivotally connected to said bottom tandem arm for pivoting in a second plane which is perpendicular to said first plane, so as to permit said idler wheels to adjust for both pitch and roll” [Claim 15], “wherein said first tandem arm and first idler wheel structure pivot in a first plane, and wherein said idler wheel structure comprises a second pivot axis for pivoting in a second plane which is perpendicular to said first plane” [Claim 16], “wherein said first tandem arm and first idler wheel structure pivot in a first plane, and wherein said idler wheel structure comprises a second pivot axis for pivoting in a second plane which is perpendicular to said first plane” [Claim 17], and “an idler wheel structure supported by said arm such that said idler wheel structure and said first wheel rock about said first pivot axis in said first plane, said idler wheels structure having a second pivot axis for rocking of said idler wheel structure in a second plane which is perpendicular to said first plane” [Claim 18]. The bottom tandem arm or idler wheel structure pivot in a second plane

which is perpendicular to the first plane the top tandem arm, bottom tandem arm, first tandem arm, or arm pivot. For example, as disclosed in Applicant's application, a preferred exemplary embodiment for the bottom tandem arm or idler wheel structure as set forth in the claims includes a roll tube in the lower tandem arms or idler wheel structure. See Amended Paragraph 72, Lines 15-18. Attached to each roll tube are two axle attachment members, which further attach to two idler hub spindle axles. See Amended Paragraph 72, Lines 19-23. Each idler hub spindle axle connects to wheel hubs, with wheels attaching to the wheel hubs. See Figures 18 and 19A and Amended Paragraph 71, Lines 3-7. Each roll tube, which is incorporated into the design of the lower tandem arms or idler wheel structure, has attached wheels. The wheels can pivot in a perpendicular plane around the roll tube, depending on terrain.

Satzler does not disclose the same structure as Applicant's claimed invention. Satzler teaches the use of a single pin within an axle. See Satzler, Figures 2 and 3. The axle in Satzler is attached centrally to the frame of the vehicle. See Satzler, Column 1, Lines 45-46. Applicant's claimed invention incorporates a roll tube into the bottom tandem arms or idler wheel structure. See Amended Paragraph 72, Lines 15-18. The bottom tandem arm or idler wheel structure are pivotally attached to the frame, while the Satzler single pin is centrally attached to the frame at the center of the vehicle. Compare Figures 18, 19A, 19B, and 24 with Satzler Figures 2 and 3. Applicant's claimed invention permits the attached idler wheels or idler wheel structure to pivot. Satzler enables the entire frame to pivot in one direction or the other, effectively limiting only one side of the tread or belts to be at a different plane than the other. See Satzler, Figure 2.

As an additional advantage, as a non-limiting example, each side of Applicant's track assembly can have at least one roll tube incorporated into the lower tandem arms or idler wheel structure, as the right side of the track assembly is a mirror image of the left. See Amended

Paragraph 71, Lines 5-6. This allows Applicant's bottom tandem arm or idler wheel structure within the left and right sides of the track assembly to pivot independently of the other in different directions, adjusting for pitch, roll and providing access and stability in a greater variety of terrain. These pivots are not limited to pivoting only in one direction like in Satzler. Applicant's structure is completely different from a centrally located pin in an axle and is not an obvious variation due to its significant differences.

Based upon the foregoing, the combination of the Purcell and Satzler references would not lead to Applicant's claimed invention, as not all of Applicant's claimed elements were disclosed by the cited references nor obvious therefrom.

New Claims

New Claims 20-23 are patentable for the reasons identified above and for the additional features set forth in the respective claims. The Examiner has identified that the bogies 27 in Purcell are equivalent structure to Applicant's bottom tandem arm. Likewise, the track rollers 28 in Purcell are asserted as equivalent to Applicant's idler wheel structure. Purcell discloses the bogies 27 as carrying "pairs of track rollers 28". See Purcell, Col. 3, Lines 12-13. As shown in Figures 1 and 2 of Purcell, the bogies 27 carry a total of two track rollers.

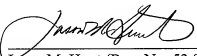
In comparison, Applicant claims a pair of wheels connected by an axle. The idler wheel structure contains two pairs of these wheels, with each of the two axles running through the idler wheel structure. See Figures 19A, 19B, and 24. A track roller is different than a pair of wheels connected by an axle in terms of structure, as well as support and load-bearing capabilities. As disclosed in Purcell, a track roller is a single wheel which attaches to the bogie structure through contact with the two ends of the single wheel. See Purcell, Figure 2. A pair of wheels connected by an axle consists of two wheels joined together by a single axle. The single axle attaches to the

tandem arm through a sleeve located in the tandem arm. The two wheels do not come into direct contact to any structure of the tandem arm. See Figures 18, 19A, and 19B.

In view of the above amendments and remarks, it is respectfully submitted that this Application is in condition for allowance and such action is earnestly solicited. However, should the Examiner have any further point of objection, the Examiner is urged to contact the undersigned by telephone so that a prompt and mutual agreement with respect to claim limitations can be reached.

Respectfully submitted,

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